



PO No	Supplier	Line Item No	Ref No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Agj Da
PO039702	TWM001-VU	1	1	Net 30	M6061T6T3.500XW.250	6061T Round Tubing : MATERIAL: 6061-T6 OR 6061-T651/T6510/T6511/T6 ROUND TUBING PER WW-T-70016 OR QQ-A.20018 OR QQ-A-22518 OR AMS 4080 OR AMS 4082 OR AMS 4083 A OR ASTM B210 OR ASTM B241 receive ft					12	5/18/2018	12	S072448	Stock	5/17/2018	\$ 27.92 / ft	
					M304TR0.750W.049	304 Round Tube .750 X .049W : MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING AS PER ASTM A213 OR ASME SA213 OR ASTM A269 receive ft				80		80	S072449	Stock	5/17/2018	\$ 2.58 / ft		
										Total:	92	92						

Plex 5/17/2018 2:43 PM Dart Dubois Pascal



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO039702

E-MAILED
APR 25 2018

Supplier:	TWM001-VU TW Metals PO Box 933014 Altanta, GA 31193-3014 USA Phone: 585 768 5600 Fax: 585 768 5601	PO No:	PO039702
		PO Date:	4/25/18
		Due Date:	5/15/18
		Purchase Order Revision:	
		Revision Date:	
		Ship-To Contact:	Lavoie, Chantal Phone: clavoie@dartaero.com
Ship To:	1270 Aberdeen Street Hawkesbury ON K6A 1K7 Canada Phone: 613-632-5200	Via:	Ground
		Pymt Terms:	Net 30
		Freight Terms:	
		Special Comments:	

Items

Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1	M6061T6T3.500XW.250		6061T Round Tubing : MATERIAL: 6061-T6 OR 6061- T651/T6510/T6511/T6 ROUND TUBING PER WW-T-70016 OR QQ..A.20018 OR QQ-A-22518 OR AMS 4080 OR AMS 4082 OR AMS 4083 A OR ASTM B210 OR ASTM B241 receive ft	Firmed	5/15/18	12 ft	0 ft	12 ft	\$27.916666/ft	\$335.00
2	M304TR0.750W.049		304 Round Tube .750 X .049W : MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING AS PER ASTM A213 OR ASME SA213 OR ASTM A269 receive ft	Firmed	5/15/18	80 pcs	0 pcs	80 pcs	\$2.579/pcs	\$206.32

Grand Total: \$541.32

Order Notes

DAS
11
9-89

DAS
11
9-89

Order Notes	
<p>Procurement Quality Clauses</p> <p>> A005 right of entry</p> <p>A012 chemical and physical test report</p> <p>A016 personnel qualification</p> <p>A017 raw material identification (as applicable)</p> <p>A026 certification of material conformance</p> <p>A041 quality management system</p> <p>A042 dart notification by supplier</p> <p>A043 retention of quality documents</p> <p>A048 counterfeit parts avoidance, detection, mitigation and disposition program</p> <p>A049 supplier awareness</p> <p>Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.</p>	

Plex 4/25/18 10:09 AM *dart.lavoie.chantal*



O'Neal High-Performance Metals Group



Packing Slip

ORDER NO.: 80928908 FROM: CHIC

PAGE 1

CUST NUMBER: 1203820 NET WGT: 65.361 REQ. DATE: 05/15/18 CONFIRMED
SOLD TO: SHIP TO:
DART AEROSPACE LTD DART AEROSPACE LTD
1270 ABERDEEN ST 1270 ABERDEEN ST
HAWKSBURY ON HAWKSBURY ON
CANADA CN K6A 1K7 ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 05/07/18
TERMS: NET 30 DAYS VIA: COMMON CARRIER
F.O.B.: SHIPPING POINT FREIGHT: PREPAID
CUST ORD NO.: PO039702 RELEASE NO.:

LINE	ITEM DESCRIPTION	RECEIVING PHONE	WIDTH	LENGTH	
0001	45279 E6061-T6511 B241 3-1/2 OD X .250 WA			12 FT	
CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	1.000 EA	1.000 EA	12.000 FT	36.023	1

** 1 TEST REPORTS REQUIRED **
** 1 CERTS REQUIRED **
ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00
PO: 49387050 HT: 50595171 PC: 1 CUSTOMER QTY: UOM
MLT: UNITED STATES MFG: UNITED STATES SLB/CL: 323064

0002 36860 SMLS CD 304/L A269 3/4 OD X .049 WA 20' CL

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT
	80.000 FT	80.000 FT	80.000 FT	29.338

** 1 TEST REPORTS REQUIRED **
** 1 CERTS REQUIRED **
ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00
PO: 49366898 HT: YX1108593 PC: 4 CUSTOMER QTY: UOM
MLT: CHINA MFG: CHINA SLB/CL:-

BROKERS KUEHNE AND NAGEL LTD

		PACK INFO					
AREA	TYPE OF PKG	PKGS	GRS	WEIGHT	WIDTH	LENGTH	HGHT
ABF	REDDICRATE	1.000		44.000	5.0000	150.0000	4
ABF	REDDICRATE	1.000		79.000	3.0000	246.0000	3
		2.000		123.000			

BY: CL

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL REVIEW.



O'Neal High-Performance Metals Group



**Packing
Slip**

ORDER NO.: 80928908 FROM: CHIC PAGE 2

CUST NUMBER: 1203820 NET WGT: 65.361 REQ. DATE: 05/15/18 CONFIRMED
SOLD TO: SHIP TO:
DART AEROSPACE LTD DART AEROSPACE LTD
1270 ABERDEEN ST 1270 ABERDEEN ST
HAWKSBURY ON HAWKSBURY ON
CANADA CN K6A 1K7 ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 05/07/18
TERMS: NET 30 DAYS VIA: COMMON CARRIER
F.O.B.: SHIPPING POINT FREIGHT: PREPAID
CUST ORD NO.: PO039702 RELEASE NO.:
RECEIVING PHONE:

LINE ITEM DESCRIPTION WIDTH LENGTH
RT 000- UNLOAD TYPE: NONE SPECIFIED

DATE SHIPPED _____

DATE FILLED _____

1

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE
PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL
REVIEW.
<http://www.twmetals.com/invoice-terms.html>



O'Neal High-Performance Metals Group



**Packing
Slip**

ORDER NO.: 80928908 FROM: CHIC PAGE 3

CUST NUMBER: 1203820	NET WGT:	65.361	REQ. DATE: 05/15/18	CONFIRMED
SOLD TO: DART AEROSPACE LTD 1270 ABERDEEN ST HAWKESBURY ON CANADA		SHIP TO: DART AEROSPACE LTD 1270 ABERDEEN ST HAWKESBURY ON ONTARIO CANADA		
CN K6A 1K7				CN K6A 1K7
SALESPERSON:	DONNA SMALLEY	SHIP BY:	05/07/18	
TERMS:	NET 30 DAYS	235 TUBEWAY		
F.O.B.:	SHIPPING POINT	CAROL STREAM	IL 60188	
CUST ORD NO.:	PO039702			
VIA:	COMMON CARRIER			
FREIGHT:	PREPAID			
RELEASE NO.:				
RECEIVING PHONE:				

"TW Metals MSDS data is available on our web site at www.twmetals.com. MSDS data can be found under the Technical Resources Tab, Product Statistics & Data and the TW Metals MSDS's heading. If you do not have web site access you may telephone 610-458-1300 and we will mail or fax a copy of our current MSDS data to your location."

"CERTIFICATE OF CONFORMANCE"

"TW Metals certifies that the material supplied on this purchase order and contained in the heat/lot number referenced above has been manufactured, inspected, and tested in accordance with the material specification. These records are on file at TW Metals. Packaging material for shipments to Europe and China consists of manufactured wood products and complies with the European emergency measures for coniferous non-manufactured wood packing material"

Authorized Test Report Clerk

Cynthia Limon

Date: 5/09/18

These commodities have been exported from the United States in accordance with the U.S. export control laws, export administrations regulations. Diversion contrary to U.S. law prohibited.

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304tro.750W.049
 DATE: MAY 17 2018

PO / BATCH NO.: 039702/5072449

MATERIAL CERT REC'D: YES
 QUANTITY RECEIVED: 80
 QUANTITY INSPECTED: 80
 QUANTITY REJECTED: 0

THICKNESS ORDERED: W.049
 THICKNESS RECEIVED: W.049
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORROSION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input type="radio"/> N	<i>As per A213</i>
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input type="radio"/> N	
PHOTO REQUIRED	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input type="radio"/> N	<i>Hardif YX1108593</i>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y <input type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> <u>11</u> DATE: <u>9-89</u> <u>MAY 17 2018</u>	SIGNED OFF BY: _____ DATE: _____
Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in	

MILL TEST REPORT

Purchaser.: TW METALS-Carol Stream		Certificate No.: 2017-9-108			
Contract No.: TWM P.O.No.: M49366898		Date of Issue.: 2017.9.16			
Commodity: Stainless Steel Seamless Tubes		Specifications: ASTM A213-17/ASME SA213-15/ASTM A269-15a EAW			
Process: Cold Drawn		Delivery Condition: OD Polished to 240 Grit			
Steel Grade	Heat Number	Lot Number	Dimensions	Quantity	
				Pieces	Feet
TP304/TP304L	YX1108-593	7-32	3/4"x0.049"x20'	250	5,000

Chemical Composition by Weight (%)

Element	C	Mn	P	S	Si	Cr	Ni	Mo	Co
Requirements	≤0.035	≤2.00	≤0.045	≤0.030	≤1.00	18.00-20.00	8.00-12.00	-	-
Ladle Analysis	0.023	0.70	0.032	0.001	0.36	18.50	8.05	-	-
Product Analysis	0.020	0.67	0.034	0.002	0.34	18.67	8.13	-	-

Mechanical Properties

Test Item	Elongation (% in 2")		Tensile Strength (PSI)			Yield Strength (PSI)		
	Rm	Rp / 0.2%	Rm	Rp / 0.2%	Rm	Rp / 0.2%	Rm	Rp / 0.2%
Requirements	≥35		≥75,000			≥30,000		
Test Results	63/64		97,000/98,000			41,000/42,000		
Test Item	Reduction of Area Z (%)	Hardness	Cold Bend Test	Flaring Test	Flattening Test	Flange Test	P.M.I. Test	
Requirements	-	HRB≤80	-	22%	≤0.09	-	-	
Test Results	-	76/78	-	Passed	Passed	-	OK	
Test Item	Eddy Current Test	Air Underwater Pressure Test	Ultrasonic Test	Intergranular Corrosion Test	Macroscopic Inspection			
Requirements	ASTM E 426	-	-	ASTM A262 E	End Cut	Appearance		
Test Results	Passed	-	-	OK	OK	OK		

ISO 9001:2008 Certified by CAS 117 16 QU 0053-06 ROS

PED Certified by SZUTEST 2195-PED-1526002

Additional Remarks:

- (1) All tubes annealed to above 1900 Deg F and water quenched below 800 Deg F in 3 minutes
- (2) All tubes tested per ASTM A1016-17
- (3) Materials is NACE MR0103-2007 compliant (per Section 2.5)
- (4) Materials is NACE MR0175/ISO 15156-2003 compliant (per Section 4.2.1)
- (5) In Compliance with EN 10204-3.1
- (6) In Compliance with RoHS Stipulation
- (7) No weld repair performed
- (8) Free from mercury contamination
- (9) Free from radioactive contamination
- (10) Billets melt and pipes/tubes manufactured in China
- (11) All tubes 100% PMI tested
- (12) All tubes 100% Eddy Current tested

CANNOT CERTIFY COMPLIANCE
FAR BAA / DFARS BAA / FAR TAA

By:



James Shi / Manager

Quality Control Department

We hereby certify that this report is true and correct.

Jiangsu Pufa Stainless Steel Tube Co., Ltd.

No. 99, Xuean Middle Road, Dongchen Town, Rugao City, Jiangsu Province, P.R.China




MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061t6t3.500xW.250

PO / BATCH NO.: 039702/5072448

DATE: MAY 17 2018

MATERIAL CERT REC'D: YES
 QUANTITY RECEIVED: 121
 QUANTITY INSPECTED: 121
 QUANTITY REJECTED: 0

THICKNESS ORDERED: W.250
 THICKNESS RECEIVED: W.250
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORROSION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input type="radio"/> N	<u>QG-A-20018</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input type="radio"/> N	
PHOTO REQUIRED	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input type="radio"/> N	<u>Heat # 50595171</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y <input type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> DATE: <u>11</u> <u>MAY 17 2018</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

PURCHASE MATERIAL: 6061-T6/T62/T651/T6511 SEAMLESS TUBING

SPECIFICATION:

WMA-T-7998
OR QQA-2008 OR QQA-2258
OR AMS-4080 OR AMS-4082 OR AMS-4083
OR ASTM B210 OR ASTM B241

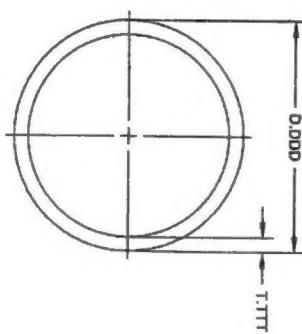
M6061T6TP.DODWWT.TT
OD | WALL

WHERE "D.DDD" = OD IN INCHES
"T.TTT" = WALL THICKNESS

E.G. 3⁸ OD X 0.058 WALL = M6061T6TP.375W0.058

MATERIAL TOLERANCE:

PER ANSI H35.2



RELEASED
2013-07-02
M

C	COMPLETE REFORMAT, ADDED AMS 4083, ASTM B210 & B241 ADDED MATERIAL TOLERANCE	AJS	13.06.12
B	ADD QQA-2008 & QQA-2258	CP	04.01.23
A	NEW ISSUE	DS	01.06.21
REV.		BY	DATE
DESIGN	AJS		
DRAWN	AJS		
CHECKED	AJS		
MFG. APPR.	<i>[Signature]</i>	DRAWING NO.	REV. C
APPROVED	<i>[Signature]</i>	TITLE	1 OF 1
DE APPR.	<i>[Signature]</i>	SCALE	NTS
DATE	13.06.12	COPYRIGHT © 2013 BY DART AEROSPACE LTD.	THIS DOCUMENT IS PROPERTY AND CONFIDENTIAL, AND IS SUBJECT TO THE GENERAL CONDITIONS THAT IT IS NOT TO BE REPRODUCED, COPIED, OR OTHERWISE DISCLOSED, EXCEPT AS AUTHORIZED BY DART AEROSPACE LTD.

KAISER ALUMINUM FABRICATED PRODUCTS

*Best in
Class*

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
2425 STEVENS DRIVE
RICHLAND, WA 99352

CUSTOMER PO NUMBER:		CUSTOMER PART NUMBER:		PRODUCT DESCRIPTION:			
M49387050-1		45279/QQ		3.500 OD X .250 WA			
KAISER ORDER NUMBER:	LINE ITEM:		SHIP DATE:	KAISER LOT NUMBER:	ALLOY:	TEMPER:	
323064	001		04/13/2018	50595-171	6061	T6511	
WEIGHT SHIPPED:	QUANTITY:		B/L NUMBER:	DIAM/DAE/THKNS:	WIDTH:	LENGTH:	
1657.000 LB	23.000 PCS		005666			24.000 FT	
SHIP TO:				SOLD TO:			
TW METALS INC 235 TUBEWAY CAROL STREAM, IL 60188 USA				TW METALS INC THE ARBORETUM 760 CONSTITUTION AVENUE EXTON, PA 19341 USA			

Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	%Elong in 2	HARDNESS	CONDUCT.	BEND
50595-171	0001	0002	45.3	42.4	15.3	N/A	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	.0
A20763	.59	.26	.21	.05	.96	.09	.05	.04	.00	.00	.00	.01	.02
A20762	.58	.26	.20	.05	.97	.08	.05	.03	.00	.00	.00	.01	.02

Applicable Requirements:

AMS-QQ-A-200/8A, TYPE 1 ASTM-B241-16 ASME-SB241 2015 SECT II Also conforms to EN 10204
3.1 STENCIL WITH AMS-QQ-A-200/8 ASTM-B221-14

Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA
MERCURY IS NOT A NORMAL BACKGROUND ELEMENT IN ALUMINUM ALLOYS. NEITHER MERCURY NOR ANY
OF ITS COMPOUNDS ARE UTILITIZED BY KAISER ALUMINUM IN THE MANUFACTURE OF THIS MATERIAL.
MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT- SUPPLIES), DFARS BAA
(DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5
TRADE AGREEMENTS).



Plant Serial: 00017986
Kaiser Order Number: 323064
Line Item: 001

KAISER ALUMINUM FABRICATED PRODUCTS

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
2425 STEVENS DRIVE
RICHLAND, WA 99352

*Bent in
Class*

CERTIFIED TEST REPORT

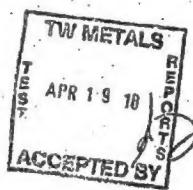
<http://Online.KaiserAluminum.com>

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

JOSEPH AMES, QUALITY MANAGER

fph



Plant Serial: 00017986
Kaiser Order Number: 323064
Line Item: 001